Summary Minutes of the Science Advisory Board
Executive Committee Meeting
October 1-2, 2003, Marriott Key Bridge, Arlington VA

EC Members: See Roster – Attachment A.
Date and Time: Wednesday, October 1, 2003, 9:00 A.M. – 5:00 P.M., and Thursday, October 2, 2003, 8:30 A.M. – 12:00 P.M.
Location: Marriott Key Bridge Hotel, 1401 Lee Highway, Arlington, VA

Purpose: The purpose of this meeting was for the Executive Committee (EC) to review a report prepared by an SAB subcommittee, and to discuss the SAB operating plan for FY2004 and the December 2003 meeting.

Attendees:

Chair:	Dr. William Glaze
Panel Members:	Dr. Henry Anderson Dr. Trudy Cameron Dr. Virginia Dale Dr. Domenico Grasso Dr. Philip Hopke Dr. Janet Johnson Dr. Roger Kasperson Dr. Genevieve Matanoski Dr. Rebecca Parkin Dr. William Smith Dr. Rhodes Trussell
Liaisons:	Dr. James Johnson Dr. Stephen Roberts
EPA SAB Staff:	Mr. Robert Flaak, SAB Staff Dr. Thomas Miller, SAB Staff, DFO Dr. Angela Nugent, SAB Staff Dr. Phil Sayre, SAB Staff Dr. Suhair Shallal, SAB Staff Dr. Vanessa Vu, SAB Staff Office Director

Others attending:

Dr. William Farland, Acting Deputy Assistant Administrator for Science, ORD
Mr. Michael Feldman, Associate Director, Annual Planning and Budget Division
Dr. Michael Firestone, Office of Children's Health Protection
Dr. Paul Gilman, Assistant Administrator, ORD
Mr. David Ziegele, Director, Office of Planning, Analysis and Accountability, OCFO

Meeting Summary

The discussion generally followed the issues and general timing as presented in the meeting Agenda (Attachment B), with the exception that the meeting began at 8:30 A.M. on Thursday, October 2, 2003.

Introductory Remarks and Welcome

Mr. Tom Miller, Designated Federal Officer (DFO) for the Executive Committee (EC) opened the meeting and stated that SAB and EC meetings complied with the Federal Advisory Committee Act requirements. Minutes of this meeting will be prepared and made available once certified by Dr. Glaze. No conflict of interest issues or any appearance of conflict of interest has been identified for the topics for discussion. Mr. Miller thanked the EC and Agency participants for their attendance.

Dr. Vanessa Vu also welcomed the members and noted the importance of the topics to be discussed.

Dr. Glaze also welcomed and thanked the EC, in particular the liaisons from the Board of Scientific Counselors (BOSC) and the FIFRA Scientific Advisory Panel (SAP). He briefly reviewed the agenda, stating that there would be one major review, as well as discussion of some issues important to the coming fiscal year and the planning of the next EC meeting. He then introduced Dr. Paul Gilman, who has had significant impact on the Agency in his role as both Science Advisor and Assistant Administrator for the Office of Research and Development.

Introductory Remarks from the Assistant Administrator for ORD and Science Advisor

Dr. Gilman began by thanking the EC for the valuable service it provides to the Agency. Peer review at EPA is a process of continuing progress and improvement. The number of Agency work products undergoing review has steadily increased since 1995, and 90% are now reviewed extramurally. The most significant of these are reviewed by the SAB.

Dr. Gilman then highlighted some activities ongoing at the Agency, including a 45-day review of science at the regional level and an analysis of risk assessment practices and policies throughout the Agency – the latter being a project the SAB may eventually assess. He also mentioned the plan for reorganization of the SAB, adding that the Acting Administrator and Acting Deputy Administrator both expressed support for this effort in a recent meeting. He noted his support as well. He concluded by saying that the Agency is serious about making its Strategic Plan a driver for its budget, and encouraged the SAB to ask for any information that may assist in its task of reviewing the annual budget.

Dr. Hopke commented that the Senate appropriations bill has not been favorable recently to science and technology budgets. He asked what the EPA had planned in the event of major budget cuts.

Dr. Gilman explained that problems could arise not only from the magnitude of cuts, but also by budget cuts targeted to specific research areas. In the event of large budget adjustments the Agency would need to decide whether to discontinue certain programs of lower priority, or to take funding proportionately out of all programs. EPA has a plan in place for planning research and funding it appropriately, but budget cuts can certainly make keeping to that plan challenging. He noted a concern with cuts to computational toxicology, IRIS revitalization, mercury research, and the STAR program.

Dr. Glaze noted that the budget cuts seem to signal a need to change the perceptions about science at EPA and he asked how the SAB can help; Dr. Gilman replied that the SAB assists the Agency by helping it conduct its work better and improving its quality.

The Agency's Initial Briefing for the SAB Review of Science and Technology Programs and the FY2005 Science and Technology Budget

Dr. Glaze opened the briefing by explaining that the SAB has, for the past several years, reviewed the Agency's Science and Technology budget. This process has been less than satisfactory, as this review has always come too late in the budget planning process. Under Dr. Vu's leadership, the SAB Staff office has this year negotiated a way in which the SAB can be involved earlier and in a more meaningful fashion. This discussion is the result of this effort; following the Agency briefing the EC will discuss the Strategic Plan, and how it will relate to the budget process.

a. The EPA Strategic Plan: A Framework

Mr. David Ziegele, Director, Office of Planning, Analysis, and Accountability, Office of the Chief Financial Officer

Mr. Ziegele presented an overview of the EPA Strategic Plan (see Attachment E). The existing planning process at EPA is fourfold, and includes strategic planning; annual planning and budgeting; operations and execution; and results measurement, reporting, and accountability. The Agency uses the Government Performance and Results Act (GPRA) for linking resources with results, and the annual plans, budgets, and annual reports follow the GPRA goal structure. GPRA outlines specific requirements for the content of a strategic plan and mandates that it be revised at least every three years. The 2003 EPA Strategic Plan has a revised goal structure, centering around five goals, versus the ten goals in the 2000 plan. Each goal consists of several objectives and sub-objectives and each sub-objective has one or more Strategic Targets. Science is addressed in a separate Objective within each Goal and there is also a cross-goal strategy for science. The five goals in the plan are:

1. Clean Air and Global Climate Change
2. Clean and Safe Water
3. Land Preservation and Restoration
4. Healthy Communities and Ecosystems
5. Compliance and Environmental Stewardship

Several EC members had questions on how the agency measures its success in achieving these goals. Mr. Ziegele explained that success is measured annually through annual performance goals and measures.

Dr. Kasperson asked whether a cross-cutting analysis is conducted across all goals, to determine the total benefit in terms of risk reduction.

Dr. Farland explained that risk plays a role in setting priorities. In addition, the Agency is currently researching other ways of looking at this in a cumulative fashion, and would appreciate any suggestions the SAB or EC may have.

b. Strategic Architecture

Mr. Michael Feldman, Associate Director, Annual Planning and Budget Division

Mr. Feldman briefed the EC on how the Agency uses its new strategic architecture (see Attachment F) to track its resource use and performance within the structure of the new EPA Strategic Plan. He explained that this planning process, when the Agency is generating and thinking about the future budget, is the best time for the SAB to provide its input prior to its testimony to Congress. EPA is at the forefront of tying budget and GPRA goals to performance measures – every goal and objective includes a section that explains the performance the Agency hopes to achieve. The Agency is still trying to improve this process and link the budget to performance in the strongest way possible. The goal and budget structure were also designed with the objective of transparency and communication with stakeholders. The budget, goals, and performance system is also linked to an OMB Business Reference Model (BRM). EPA is one of the first agencies to do this, having recognized efforts by OMB to use this tool in cross-agency comparisons.

In Budget Formulation, the hierarchy, as in the EPA Strategic Plan, has Goals, Objectives, and Sub-objectives. In addition, there are Annual Performance Goals and Performance Measures. In Budget Execution, or the day-to-day tracking of actions, the hierarchy includes Goals, Objectives, Program/Projects, and Activities. Program/Projects were formerly called "Key Programs" and they describe WHAT EPA does. They address Congressional and Program needs and link to Sub-objectives. Many have Annual Performance Goals. Currently, there are 142 Program/Projects (see Attachment G). Activities describe HOW EPA does its work. They are common across Goals, Objectives, Sub-objectives, and Program/Projects. There are 13 Activities (see Attachment H).

Dr. Glaze commented that this information provides the SAB with a greater level of detail in the Agency's budget planning than it has had before. He added that this is a positive step for the SAB to take, and one which will better inform the Board and hopefully render its advice to the Agency more useful.

c. Overview of EPA Science in Support of Decision-Making

Dr. William Farland, Acting Deputy Assistant Administrator for Science, Office of Research and Development

Dr. Farland presented an overview of the EPA Science activities as an introduction to the FY2005 cross-agency science and technology budget review (see Attachment I). The scope of EPA science is broad, but centered on the Agency's mission to protect human health and the environment. Science in support of the Agency's mission is conducted by EPA Program and Regional Offices as well as in the Office of Research and Development's (ORD) Research Laboratories and Centers. EPA also funds research at academic, state, and local institutions. EPA science and technology programs are funded from a number of its appropriation accounts. The Office of Research and Development comprises about 10% of EPA staff. Its goal is to provide credible, relevant and timely research products to its clients, which include the EPA program offices and regions. ORD research products assist the Agency in making decisions based on sound science. ORD prepares its own strategic plan based on the five GPRA goals. Research areas are prioritized and research activities organized into multi-year plans (MYPs), which tie research plans to performance measures and resources. Example MYPs were presented, as were each of the five goals with their objectives and sub-objectives.

Mr. Kevin Teichman discussed ORD's planning philosophy and noted their high priority research areas. He noted that there are now 16 multi-year plans on the ORD Website with two more due in October 2003. MYPs note research that will be conducted in the areas over the next 5 to 8 years. Mr. Teichman discussed the relationship of their research activities and outputs to Annual Performance Measures and how they relate to Annual Performance Goals, short term outcomes (knowledge generation, e.g.), intermediate outcomes (their influence on Strategic Objectives), and long term outcomes (their influence on Strategic Goals).

Dr. Grasso asked how objectives and goals are prioritized, as no prioritization is evident in the strategic plan.

Dr. Farland explained that the prioritization is done during budget allocation and planning, and takes into account statutory requirements as well as research objectives. Mr. Ziegele added that prioritizing within the strategic plan, which is a public document, would likely result in adverse effects for the Agency.

Dr. Matanoski commented that a similar problem exists in discussing the Agency's budget with Congress: if a list of objectives is prioritized, it is likely that the items at the bottom of the list will be cut. In the past the SAB has been able to work around assigning explicit priorities, but Congress will always ask for this information.

Dr. Smith asked how the five goals are distributed in terms of human health and ecological effects.

Dr. Teichman replied that some goals cut across both, while others are geared more toward one area or the other.

Dr. Vanessa Vu explained that this briefing was intended to provide the EC with the "big picture". Another series of briefings will be scheduled for the SAB to talk about each of the five goals with representatives from the programs and regions. She presented the briefings schedule as follows:

Goal 1: November 2003
Goals 2, 3: December 10 or 12, 2003
Goals 4, 5: January 2003 (by conference call)

Dr. Hopke remarked that he was pleased to see the new goal structure, as the previous set of goals seemed to be based on an artificial construct. He added, however, that the new structure may make it more difficult to discern short-term versus long-term research.

Dr. Cameron cautioned the Agency to consider the marginal benefit of resources spent, keeping in mind where allocation of resources would provide the most benefit. An Agency must be conscious of that any time it has limited resources, and it becomes yet more important if resources are diminishing.

Dr. Glaze adjourned the meeting for lunch at 12:00 P.M., until 1:00 P.M.

Review of the SAB Report on *Supplemental Guidance for Assessing Cancer Susceptibility from Early-Life Carcinogens*

Dr. Anderson, Chair of the SAB review panel for this topic, explained that this review was a second look at early life exposure to carcinogens. The charge in this case was not childhood cancer, but rather childhood exposure to carcinogens that might cause disease later in life. The report examines not differential exposure, but whether there are physiologic or mode-of-action reasons that render early life stages more susceptible to carcinogens. The committee found the approach of applying an adjustment factor to the carcinogen slope factor to be generally appropriate. However, there is more literature available on this topic that was not included in the report, and some citations were added to strengthen the evidence for early life susceptibility. The committee also felt that the adjustment factor should be applied in cases where the mutagenic mode of action is not known. Finally, the committee agreed that expanding the age groups used to specifically include puberty is a reasonable step if endocrine disruptive modes of action are to be addressed in future. Overall the committee thought that the Agency responded adequately to the first review, particularly to the need for a science analysis to support its decision. Though additional work could be done, this report was a good first attempt.

As a lead discussant, Dr. Matanoski commented that the analysis of the studies the Agency chose to include was not particularly clear. The adjustment factor was derived based on only about 28 studies; due to this decision, nearly every chemical could be raised to a much larger risk than it currently represents, and this decision would be made

based only on a small portion of the relevant literature. It is not clear to her why these particular studies and cases were chosen. Some specific areas could also be expanded, such as radiation. More information is needed on when tumors should be added together: this approach is good when there are competing risks, but there are other cases when tumors should not be combined. The SAB asked for better definition of ages, but is unclear whether age frames in animal models can be related to humans. Finally, many terms used in the document need to be better defined. Dr. Matanoski recommended that a sentence be added to the report directly addressing the charge question, and stating that the committee found the studies used accurate, reliable, appropriate and reproducible.

Dr. Parkin, the second lead discussant, agreed that the studies had elements of both accuracy and reliability, though not always reproducibility. She suggested that a table of the criteria used to choose relevant studies would have been a helpful inclusion in the Agency's report. In addition, a list of all studies used should be included in the SAB committee's report. She also recommended that more attention be given to statistically supporting the approaches used. She finally stated that terms such as "earlier latency" and "lower latency", among others, should be better defined in the document to make it more comprehensible.

Dr. Cameron commented on the fact that the Agency's report is combining the summary statistics from a wide range of studies; better ways could be found for appropriately combining the various sources of information, such as a model that would compensate for all the variables across studies. She added that the committee's report could be enhanced by recommending the Agency recruit raw data from the original investigators in order to re-do the meta analysis. Another problem with combining information from several studies is the possibility that each process may have errors associated with it; the possibility that these errors may be correlated must be taken into account.

Dr. Johnson wanted to know if the committee discussed what the specific modifying factor should be.

Dr. Anderson replied that the committee discussed the issue but did not reach an agreement. Modifying factors of 3x and 10x were proposed, but deciding on one of the two would be a matter of policy. The SAB draft report recommends that the Agency make clear that both numbers are acceptable given the data, while emphasizing that neither is directly derived from the data.

Dr. Roberts commended the committee on their work on this report, adding that the document seems to provide better reasoning for using the modifying factor. He noted that information on the issue is limited and that this seems to be understood by the Agency. The review panel report seems to say to EPA "squeeze" the information a little harder. He noted that the report seems reasonable to him.

Dr. Grasso asked whether increased early-life susceptibility was deemed to be due to a greater body burden or uptake rate. Although the answer may not be known, some

discussion of this concept is necessary. He also recommended that all variables in the first two equations listed be defined, along with their units.

Dr. Glaze found the letter to the administrator to be quite long, adding that some of the information included can also be found in the report's summary. He commented that it may be more valuable to keep the letter shorter by just providing the essence of the report.

Dr. Anderson explained that the intention was for the letter to be a stand-alone document, but added that it could be shortened, as the committee would likely not feel strongly about including background information or the charge questions.

Dr. Glaze requested that Dr. Vu consult with the Acting Administrator and advise the committee on what format she would prefer.

A motion was made to accept the report subject to revisions based on the discussants' comments and the comments of the EC. Once the revisions have been made, the final document will only need to be approved by the discussants, Drs. Matanoski and Parkin, and not the entire EC.

The motion was unanimously approved following a vote by the EC.

Updates from Other Agency Advisory Committees

a. Children's Health Protection Advisory Committee (CHPAC)

Dr. Michael Firestone, Office of Children's Health Protection

Dr. Firestone presented a summary of the 2003 activities and possible future plans of the CHPAC (see Attachment P). The CHPAC charter was recently approved, and the committee's first meeting is scheduled for January 2004. A liaison to the SAB will be designated as soon as the committee meets.

The committee prepared four comment letters in 2003: on the National Academy of Sciences study of the future of toxicity testing; the creation of a national pesticide incident reporting system; the standardization of human milk sampling and analysis; and the bioethical issues on the use of human data.

Several activities are being considered for 2004, one of which is the Supplemental Children's Cancer Guidance and its policy implications. Several of the activities listed may present opportunities for collaboration between the CHPAC and the SAB.

b. FIFRA Scientific Advisory Panel (SAP)

Dr. Steven Roberts, Chair, FIFRA SAP

Dr. Roberts presented an update of the recent and upcoming activities of the FIFRA SAP (see Attachment Q). Two recent meetings of the SAP have focused on the potential developmental effects of atrazine on amphibians, and on the characterization of epidemiology data relating to prostate cancer and exposure to atrazine.

Future meeting topics will include: ensuring data quality for *in vitro* tests used as alternatives to animal studies; proposed OPPTS science policy on evaluating PPAR-alpha agonist induced rodent liver tumors; probabilistic exposure and risk assessment for children who contact CCA-treated wood on playsets and decks and CCA-containing soil; and a pilot analysis of PBPK modeling with a n-methyl carbamate pesticide.

c. Board of Scientific Counselors (BOSC)

Dr. James Johnson, ORD Board of Scientific Counselors

Dr. Johnson presented an update on the activities of the BOSC (see Attachment R). The BOSC charge is to provide advice to ORD on issues of management processes and practices. The BOSC subcommittee on communications was formed recently to examine how effectively the results of ORD-funded research are communicated. A workshop was conducted and self-studies are underway by the ORD laboratories and centers. Another BOSC subcommittee was formed to identify candidates who could fill vacancies for the 2003 and 2004 BOSC classes.

The BOSC has been subdivided into four subgroups in anticipation of conducting reviews in the areas of computational toxicology, global climate, the mercury multi-year plan, and endocrine disrupting chemicals. Future meetings are planned in January and May 2004.

Dr. Glaze thanked the representatives of the advisory committees who presented summaries, and commented on the need for closer communication between these groups and the SAB, as all are working on similar types of problems.

<u>Planning for the SAB Annual Meeting: Discussion of Possible Science Topics</u>

Dr. Glaze informed the EC that the annual SAB meeting would be taking place on December 10-12, 2003, and would include a colloquium on emerging issues. The SAB has previously emphasized its dual role of both conducting reviews and providing the Agency with strategic advice. The SAB has discussed previously that the Agency could benefit from long-range thinking on issues that may not be regulatory in type, but may still be important in terms of environmental and public health impacts. The SAB can play a role in anticipating, exploring, and analyzing emerging issues, particularly in cases where the Agency may not be anticipating the future impact of such issues or of the SAB's early involvement. A list of potential emerging issues was compiled by Dr. Phil Sayre (SAB Staff) for discussion by the EC, which will decide which of these topics should be included in the annual meeting (see Attachment S).

Dr. Vu commented that many good ideas were received from the SAB on emerging issues to focus on. It is important for the EC to select those topics that should be pursued further, so that appropriate speakers can be identified and planning of the December meeting can continue. She added that a new EPA Administrator may have been selected by that time, and the SAB may have the opportunity to meet him or her at the meeting.

The EC held discussions on the proposed topics following a brief presentation by an EC lead. The topics that were discussed are summarized below.

Topic 4: Approaches for Monitoring Air Pollutants

Dr. Hopke briefly discussed this topic, stating that that U.S. will soon be faced with the problem of trans-boundary pollutants. Another issue of concern is the effect of tropospheric ozone particles on climate. This issue provides the opportunity to look at a variety of interacting problems. Dr. Glaze proposed changing the topic name to "Impact of Trans-boundary Air Pollutants", and other EC members agreed.

Topic 5: Reducing Air Particulates Resulting from Ammonia

Dr. Glaze explained that there is a significant difference in the reaction of ammonia with sulfuric versus nitric acid: although the reaction with sulfuric acid will bind ammonia, the reaction with nitric acid is more of an equilibrium, and a certain amount of ammonia is needed to drive that equilibrium. More nitrate tends to be seen in the winter months, as there is excess ammonia present to drive the reaction. Continued reductions also come into play, with the additional sulfur dioxide removal from power plants. It may be necessary to consider both sulfur dioxide and ammonia control in order to achieve the reduction in particulate matter desired.

The EC discussed combining this topic with topic 4, or even combining topics 3, 4, and 5 together. Most agreed this could be done, but would result in the question of which particular aspect to emphasize.

Following discussion, it was agreed that Dr. Hopke and Dr. Morgan would look into combining topics 4 and 5.

Topic 8: Managing Emerging Ecosystems

Dr. Dale explained that this topic stems from the fact that the concepts of ecological systems are based on "natural" environments, whereas in actuality those systems EPA is trying to regulate are altered ecosystems that are highly influenced by human activities.

Dr. Smith commented that this topic may be related to the valuing of ecological and biological systems. Dr. Kasperson added that the concepts of diversity and systems modeling may relate well to any discussion of this topic.

Topic 9: Invasive Species

Dr. Dale stated that this issue is of primary concern for other agencies, although EPA also has a large role in it.

Dr. Glaze commented on a presentation given on this topic during the July 2003 EC meeting. The speakers gave the impression that this may not be a high priority for EPA.

Dr. Vu explained that the agency understands the importance of invasive species, though funding research in this area has been a problem.

Topic 10: Environmental Security

Dr. Dale commented that this topic was so named to deliberately parallel the concept of homeland security. This addresses ecosystem services, which are issues that may be as important as homeland security, and would be better dealt with in a proactive fashion rather than with after-the-fact regulation.

Topic 11: Meeting Multiple Criteria for Environmental Protection

Dr. Dale discussed this topic in comparison to the current, single media approach. Focusing on multiple media has been discussed previously and is not really a new issue, but it is one that has never been adequately addressed.

Dr. Glaze commented that the reason for this may be the difficulty of dealing with biological complexity in risk assessment, which is a secondary question related to dealing with complexity in environmental systems.

Topic 12: Incorporation of Road Ecology into New Land Development Decisions

Dr. Dale explained that although roads play a major role in the way people both perceive and affect the environment, they are currently regulated on a state-by-state basis, with no overlying national plan. As road modifications can affect habitat, sediment flows, and other ecosystem aspects and processes, it would be worthwhile to discuss a more integrated way of regulating them.

Dr. Glaze adjourned the meeting for the day and discussion of the potential emerging topics resumed on the second meeting day (October 2, 2003).

Day 2, October 2, 2003: Reconvened the meeting and continued the discussion of Science Themes for the Annual Meeting.

Topic 1: Environmental Implications of Nanotechnology

Dr. Sayre explained that, although this is new technology, there is already a large amount of government funds invested in its development. Nanomaterials have altered properties that make them unique, but also unpredictable in terms of their human health effects and environmental fate.

Topic 2: Anticipation and Prevention of Emerging and Re-emerging Contaminants

Dr. Sayre commented that this is a topic of concern particularly in the regions, who are interested especially in how to best anticipate such occurrences.

Dr. Parkin commented that at least a portion of the discussion of this topic should focus on anticipating truly new and emerging contaminants.

Dr. Cameron commented on the sheer number of chemicals in question, and proposed thinking carefully about whether some of the information could be combined in a way that is both meaningful and helpful, possibly using regression.

Topic 3: Environmental and Safety Considerations of Hydrogen-Based Energy Systems and their Alternatives

Dr. Glaze commented that this topic stemmed from a statement by the President that the U.S. is moving towards hydrogen-based energy systems. A number of articles have been published on the subject, some of which have identified potential problems with such systems. Potential alternatives should also be considered.

Dr. James Johnson commented that companies are leading a push toward hydrogen-based vehicles and may have a vision of how such energy systems might work. It may be worthwhile to invite a speaker who could explain this.

Several EC members agreed this was an important topic.

Dr. Glaze proposed the idea of using this topic to launch a discussion on other alternative energy options, and how they may change the set of environmental problems facing the Agency.

Topic 6: Impacts of "Omic" Technologies on Human Health and Ecological Risk

Dr. Sayre explained that these technologies already play a large role in predicting hazard and are currently being used by pharmaceutical companies. Although EPA now has an interim policy on genomics, there is a need to move forward.

Dr. Glaze solicited the EC's opinions on how this topic could be approached, as it covers a broad range of subjects. Dr. Anderson commented that genomics has already been helpful in microbial assessments, and has improved the ability to solve microbial outbreaks. Dr. Matanoski agreed, but added that it should be narrowed down to some specific topics; several other EC members agreed. Dr. Glaze commented that there seemed to be a great deal of interest in including this topic in the December meeting agenda.

Added Topic: Social Science Implications associated with Emerging Issues.

Dr. Parkin suggested the need to have a topic that brought in the social science implications of dealing with emerging issues. For example, the acceptance of and funding by society of responses to perceived problems is always an important concern. Social scientists have much to say about this. An alternative suggested by Dr. Kasperson was to have the social science implications of each topic discussed as the issue comes up in the Annual Meeting. Ultimately, it was decided to take the latter route and include within each topic, a discussion of the sociological implications of the issue and its resolution.

Dr. Glaze asked the EC members to rank each of the twelve topics listed.

Mr. Miller presented the results of the ranking of potential topics (top 5):

Topic 6: "Omic" Technologies	(10 votes)
Topic 3: Hydrogen-Based Energy Systems	(8 votes)
Topic 1: Nanotechnology	(8 votes)
Topic 4: Monitoring Air Pollutants	(6 votes)
Topic 2: Emerging Contaminants	(5 votes)

The following members volunteered to work on developing each of the topics and identifying speakers to invite:

Topic 1: Dr. Grasso
Topic 2: Dr. Trussell
Topic 3: Dr. Glaze, and Dr. Granger if interested
Topic 4: Dr. Hopke
Topic 6: Dr. Matanoski, and one other member to be determined

The EC discussed the format for the science sessions and agreed that a short presentation followed by about 45 minutes of discussion should allow enough time to cover four or five topics. Dr. Kasperson recommended preparing a list of questions in advance for each topic in order to keep the panel's discussion focused. After a brief discussion of the time needed to invite and secure speakers, the EC members assigned to each of the topics above agreed to submit recommendations to Dr. Vu by Tuesday, October 7, 2003.

Discussion and Approval of FY 2004 Projects

Dr. Vu provided an update of the FY2004 SAB projects previously discussed in July 2003, and distributed a list of all projects (Attachment R), and the projected schedule of projects coming up in the first quarter (Attachment U).

In addition to the projects listed, the Administrator has the discretion to ask the SAB to consider other projects. If any such projects arise, Dr. Vu will inform the appropriate committee so that they can be scheduled in the year's plan.

She added that the SAB has resources to address important, visible, and high priority projects. Although the Agency can use other mechanisms for conducting reviews, the SAB attempts to accommodate most of the high priority projects.

In response to Dr. Glaze's question on the status of self-initiated projects, Dr. Vu explained that the Agency had overall been responsive to these projects. Small groups from both the SAB and the Agency are currently considering these and preparing more elaborate proposals, which they will submit to the EC for review in the near future.

The EC discussed whether some representation from the EC would provide useful input to these working groups.

Dr. Glaze added that he would like discussion of self-initiated projects to be a regular agenda item for future EC meetings, rather than a topic to be discussed once a year.

Meeting Conclusion

At the conclusion of the discussion, the Chair thanked the EC members and EPA participants and adjourned the public meeting at 12:00 P.M. EC members were asked to reconvene at 12:30 P.M. for a planned non-FACA session.

Action Items:

- Dr. Vu to advise the SGACS Review Panel the format of the report cover letter to the Administrator (longer versus shorter letter).
- Drs.Hopke and Morgan will discuss combining topics numbered 4 and 5 (of the potential emerging issues; see Attachment Q).
- Dr. Cameron will send to Dr. Glaze her comments regarding combining the information on all the potentially emerging contaminants.
- The EC members responsible for each of the five topics selected for the December meeting will submit information on potential speakers to Vanessa Vu by Tuesday, October 7, 2003.

Respectfully Submitted:

/ Signed /

Thomas O. Miller
Designated Federal Officer
EPA Science Advisory Board

Certified as True:

/ Signed / (email 3-4-2004)

William H. Glaze
Chair
EPA Science Advisory Board

ATTACHMENTS

Attachment A:	Roster of the Executive Committee
Attachment B:	Meeting Agenda
Attachment C:	Federal Register Notice
Attachment D:	Participant Sign-In Sheet
Attachment E:	PowerPoint Slides: The EPA Strategic Plan
Attachment F:	PowerPoint Slides: Implementing the New Strategic Architecture
Attachment G:	PowerPoint Slides: EPA S&T FY2005 Budget
Attachment H:	List of Program Results Codes
Attachment I:	List of EPA Activities (Environmental)
Attachment J:	Supplemental Guidance for Assessing Cancer Susceptibility from Early-Life Exposure to Carcinogens
Attachment K:	Draft Report of the SGACS Review Panel
Attachment L:	Letter to the Acting Administrator on SGACS Report
Attachment M:	Comments by Granger Morgan on SGACS Report
Attachment N:	Comments by Rebecca Parkin on SGACS Report
Attachment O:	Comments by Genevieve Matanoski on SGACS Report
Attachment P:	Children's Health Protection Advisory Committee Update
Attachment Q:	FIFRA Scientific Advisory Panel Update
Attachment R:	Board of Scientific Counselors Update
Attachment S:	A U.S. EPA SAB Colloquium on Emerging Issues
Attachment T:	Planned SAB Projects for FY2004
Attachment U:	Projected Schedule of SAB Projects for the First Quarter FY2004
Attachment V:	Comments by Dr. Cameron on SGACS Report